Project Name: Radiation Source For Brachytherapy
Customer: Plasma & Ion Source Technology Group
Date: from 2/21/02 to 3/4/02
Project team members:

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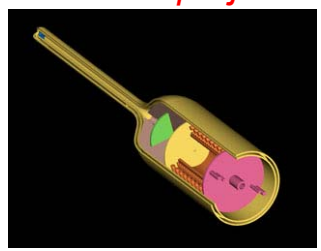
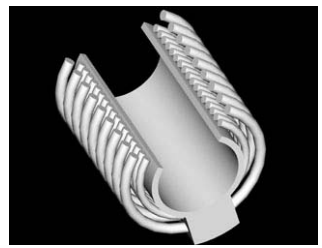
Check the project folder on our website

Project:

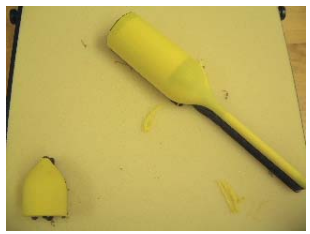
Ka-Ngo Leung in AFRD required a scale model of a radiation source for brachytherapy applications. Dr. Leung was preparing for a trip to Italy where he would present this new concept to potential customers.

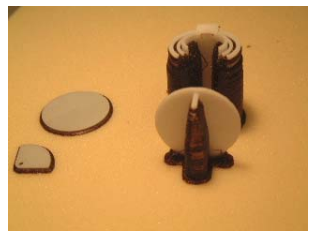


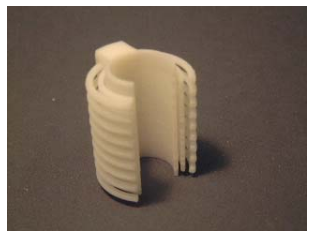


The challenge:

The outer shell (physical envelope) of the model existed in Pro/E, but the rest of the elements only existed in a 2-D picture. At full scale, the model's .030" wall thickness was near the limits of the FDM machine's capabilities. Seven business days were allotted, since Dr. Leung's travel plans were already set.







The Solution:

Using Pro/E, the rest of the model's parts was designed into the envelope constraints. These parts were then sent to the FDM for the build. Even the .030" wall thicknesses showed good results, and the thin members of the mock RF antennas were structurally sound.

To highlight certain sections of the cutaway model, extensive masking was required before painting took place. Finally, to protect the fragile nature of the model, it was glued into a clear acrylic tube, much like a ship in a bottle.